

10/057,099

-2-

A0000247-01-MG

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Currently amended): A method for detecting gabapentinoid activity in a compound comprising the steps of:

- (a) introducing into host cells that express ~~the~~ an NK receptor a heterologous DNA sequence that encodes a reporter polypeptide in response to Erk-2 activation;
- (b) separating the host cells into at least two groups, a first group and a second group;
- (c) treating the first group of host cells with a target test compound that binds to the  $\alpha_2\delta$  subunit of a calcium channel;
- (d) treating the first group and second group of host cells with an NK receptor agonist;
- (e) determining reported polypeptide activity in the first group and in the second group;  
and
- (f) comparing reporter polypeptide activity from the first group to the second group ;  
and
- (g) identifying as a gabapentinoid, a test compound that shows greater inhibition of said reporter polypeptide activity in said first group of step f) than said reporter polypeptide activity of said second group in step f).

Claim 2 (Originally filed): The method of Claim 1, wherein the host cells are Chinese hamster ovary (CHO) cells.

Claim 3 (Originally filed): The method of Claim 1, wherein the heterologous DNA sequence encodes luciferase.

Claim 4 (Cancelled).

Claim 5 (Previously amended): The method of Claim 1, wherein in the NK receptor agonist is substance P.

10/057,099

-3-

A0000247-01-MG

Claim 6 (Previously amended): The method of Claim 1, wherein step (b) comprises the step of separating the host cells into a plurality of groups, and step (c) comprises treating each separate group with a compound having a final concentration of between 1  $\mu$ M and 1 mM.

Claims 7-9 (Cancelled).

Claim 10 (Previously amended): The method of Claim 1, wherein step (d) occurs prior to step (c).

Claims 11-18 (Cancelled).

Claim 19 (Currently Amended). A method for detecting gabapentinoid activity in a compound comprising the steps of:

- (a) introducing into host cells that express ~~the~~ an NK1 receptor a heterologous DNA sequence that encodes a reporter polypeptide in response to Erk-2 activation;
- (b) separating the host cells into at least two groups, a first group and a second group;
- (c) treating the first group of host cells with a ~~target test~~ compound that binds to the  $\alpha_2\delta$  subunit of a calcium channel;
- (d) treating the first group and second group of host cells with an NK receptor agonist;
- (e) determining reported polypeptide activity in the first group and in the second group;  
and
- (f) comparing reporter polypeptide activity from the first group to the second group ;  
and
- (g) identifying as a gabapentinoid, a test compound that shows greater inhibition of said reporter polypeptide activity in said first group of step f) than said reporter polypeptide activity of said second group in step f).

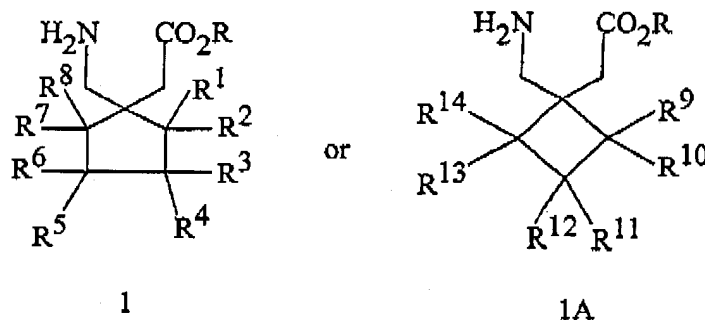
Claim 20 (New): A method for detecting gabapentinoid activity in a compound comprising the steps of:

10/057,099

-4-

A0000247-01-MG

- (a) introducing into host cells that express an NK receptor a heterologous DNA sequence that encodes a reporter polypeptide in response to Erk-2 activation;
- (b) separating the host cells into at least two groups, a first group and a second group;
- (c) treating the first group of host cells with a target compound;
- (d) treating the first group and second group of host cells with an NK receptor agonist;
- (e) determining reported polypeptide activity in the first group and in the second group;
- (f) comparing reporter polypeptide activity from the first group to the second group;
- and
- (g) identifying as a gabapentinoid, a test compound that shows greater inhibition of said reporter polypeptide activity in said first group of step f) than said reporter polypeptide activity of said second group in step f); wherein said target compound is a compound of formula



or a pharmaceutically acceptable salt thereof wherein:

R is hydrogen or a lower alkyl;

- (g) R<sup>1</sup> to R<sup>14</sup> are each independently selected from hydrogen, straight or branched alkyl of from 1 to 6 carbons, phenyl, benzyl, fluorine, chlorine, bromine, hydroxy, hydroxymethyl, amino, aminomethyl, trifluoromethyl, -CO<sub>2</sub>H, -CO<sub>2</sub>R<sup>15</sup>, -CH<sub>2</sub>CO<sub>2</sub>H, -CH<sub>2</sub>CO<sub>2</sub>R<sup>15</sup>, -OR<sup>15</sup> wherein R<sup>15</sup> is a straight or branched alkyl of from 1 to 6 carbons, phenyl, or benzyl, and R<sup>1</sup> to R<sup>8</sup> are not simultaneously hydrogen.

10/057,099

-5-

A0000247-01-MG

21. (NEW) The method of claim 1 wherein said test compound of step g) shows, at 500  $\mu$ M, at least 20% greater inhibition of said reporter polypeptide activity in said first group of step f) than said reporter polypeptide activity of said second group in step f).
22. (NEW) The method of claim 1 wherein said test compound of step g) shows, at 500  $\mu$ M, at least 25% greater inhibition of said reporter polypeptide activity in said first group of step f) than said reporter polypeptide activity of said second group in step f).
23. (NEW) The method of claim 1 wherein said test compound of step g) shows, at 500  $\mu$ M, at least 30% greater inhibition of said reporter polypeptide activity in said first group of step f) than said reporter polypeptide activity of said second group in step f).